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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,561	12/05/2003	Dallas W. Meyer	15796.4.1	8888
22913	7590	08/28/2006	EXAMINER	
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			WONG, KIN C	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/728,561	Applicant(s) MEYER, DALLAS W.	
	Examiner K. Wong	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/16/04&10/12/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims (1-48) are rejected under 35 U.S.C. 102(e) as being anticipated by Magee (6522494).

Regarding claims 1, 3, 4, 15, 16, 22, 23, 26, 32 and 38: Magee discloses a disk drive that has multiple recording heads for reading and writing data on disk surfaces of one or more disks (as depicted in figure 4 of Magee), a procedure for writing servo data on the different disk surfaces without requiring a servo writing machine or clean room conditions (or self servo writing see col. 12, lines 46-59 of Magee), wherein at least a portion of the servo data is used in fine track positioning the multiple recording heads when the disk drive is in operation, the procedure including:

moving a macroactuator assembly (actuator/VCM – see col. 6, lines 37-43 of Magee) that controls macro positioning for multiple recording heads to a first reference position (as depicted in figures 4 and 5 of Magee);

while the macroactuator assembly remains at the first reference position writing a first reference track on a first disk surface using a first recording head centering the first

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recording head on the first reference track and, while following the first reference track by the first recording head, applying feedback from the first recording head to a microactuator in each of one or more other recording heads from the multiple recording heads (see col. 11, lines 11-19 and col. 10, lines 1-59 of Magee); and

in response to the feedback, using the microactuator in each of the one or more other recording heads to independently move the one or more other recording heads in a radial direction to write servo data on one or more disk surfaces associated with the one or more other recording heads (in col. 8, lines 15-30 where Magee describes the independent movement of the additional head with the microactuator). Magee discloses a self servo writing with plurality of disks and each micro-actuated head per surface with independently controlled microactuator.

Regarding claims 27 and 33: Magee teaches that wherein the servo data comprises servo wedges and data patterns, the servo wedges being used for ensuring that a recording head follows a particular track when the disk drive is in operation and the data patterns being used for servoing assistance when writing servo data within subsequent data tracks (col. 10, lines 34-59 of Magee).

Regarding claims 2, 7, 18, 24, 28 and 34: Magee teaches that wherein the data patterns are positioned between the servo wedges and are out-of-phase with data patterns within adjacent tracks, and wherein the data patterns provide a feedback signal for generating a position error signal (col. 11, lines 24-33 of Magee).

Regarding claims 5, 8, 19, 29, 35 and 39: Magee teaches that wherein the position error signal is responsive to one or more motions within the disk drive, and

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wherein the position error signal is used to control the microactuators of the one or more other recording heads when writing the servo data (col. 11, lines 19-33 of Magee).

Regarding claims 6, 20, 21, 30, 36 and 37: Magee teaches that wherein the one or more motions are associated with frequencies from at least one of a spindle motor, base actuator post, a disk in the disk drive and a recording head (col. 11, line 34 to col. 12, line 27 of Magee).

Regarding claims 9, 10, 25, 31, 40 and 42: Magee teaches that wherein the servo data includes servo wedges used for computing an error signal for macroactuator and microactuator tracking when the disk drive is in operation, and wherein the servo wedges are converted into half bits by offsetting the multiple recording heads by a half track position and writing an inverse polarity of the servo wedges (in col. 12, lines 18-27 where Magee describes a range for computing the position error).

Regarding claims 11, 12, 13, 14 and 41: in col. 12, lines 8-13 and col. 12, line 60 to col. 13, line 12 where Magee describes the determination or testing the track density in respective to the servo pattern which satisfies the functions as recited in the noted claims.

Regarding claims 43-48: claims (43-48) have limitations similar to those treated in the above rejections, and are met by the reference as discussed above. Claim 43 however also recites the following limitations different pitch width (or track density and spacing) that which is taught in col. 12, lines 58-67 of Magee.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bryant et al (6724558) and Ehrlich et al (6519107) are cited for self-servowriting. Bonin et al (6785086) is cited for microactuator.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (571) 272-7566.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, H. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

kw

22 Aug 06


K. WONG
PRIMARY EXAMINER